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Theodore Naccarella, Esq.
SYNNESTVEDT & LECHNER LLP
Aramark Tower, Suite 2600
1101 Market Street
Philadelphia, PA 19107

EXAMINER

DANG, KHANH

ART UNIT PAPER NUMBER

2111

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,746

Applicant(s)

BAKER ET AL.

Examiner

Khanh Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-15, 18-, 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15, 18, 20 and 21 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 22, AND 23 is/are rejected.
- 7) ☒ Claim(s) 7-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice to Applicants

This Application, previously assigned to and examined by Examiner Justin, is now assigned to Examiner Dang. Any future contact should be directed to Ex. Khanh Dang whose contact information is provided at the end of this Office Action.

Claim Rejections - 35 USC § 112

Claims 10 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, the use of the term "third state" is unclear, since the first and second states are not defined in the claim.

New claim 23 is directed to an apparatus. However, the essential structural cooperative relationship(s) between the so-called "circuit for receiving," "circuit for interpreting said at least one indicator bit," and "circuitry for interpreting said internal address portion" have been omitted, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

MPEP 2172.01 requires that relationships between elements recited in the claims must be specified. Specifically, MPEP 2172.02 requires interrelation and structural

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relationships between essential elements in the claims. Therefore, it is the Examiner's position that the claimed elements, as defined in the originally filed specification and as identified above, are essential elements to the claimed invention. Since they are essential elements as defined in the originally filed specification, their structural cooperative relationships must be provided in the claims. Further, it is also the Examiner's position that the claimed elements, as identified above, function simultaneously, are directly functionally related, directly inter-cooperate, and/or serve independent purposes, as evidenced from the originally filed specification.

If Applicants disagree with the Examiner that the above identified elements, as defined by the originally filed specification, are essential elements to the claimed invention, and that the above identified elements are directly functionally related, directly inter-cooperate, and/or serve independent purposes, it is requested that Applicants provide evidences showing that the identified elements are not essential elements to the claimed invention, do not function simultaneously, are not directly functionally related, do not directly inter-cooperate, and/or do not serve independent purposes; and state on the record that this is the case.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

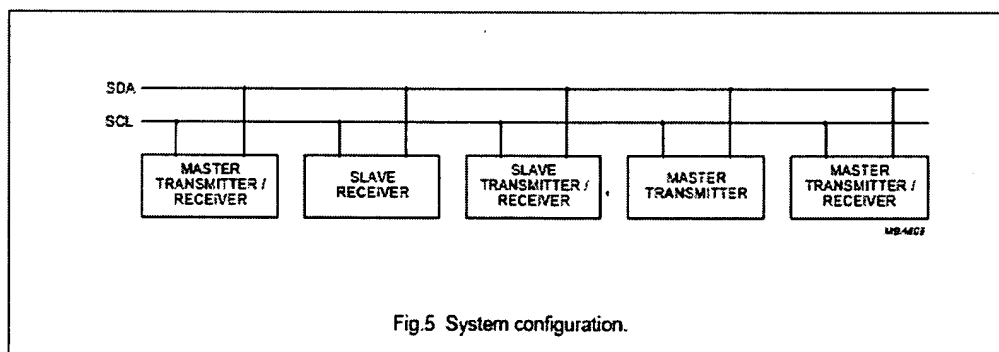
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5, 6, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over 128x8-bit EEPROM with I2C Bus Interface from Philips Semiconductors (Philips) in view of the I2C Bus Specification.

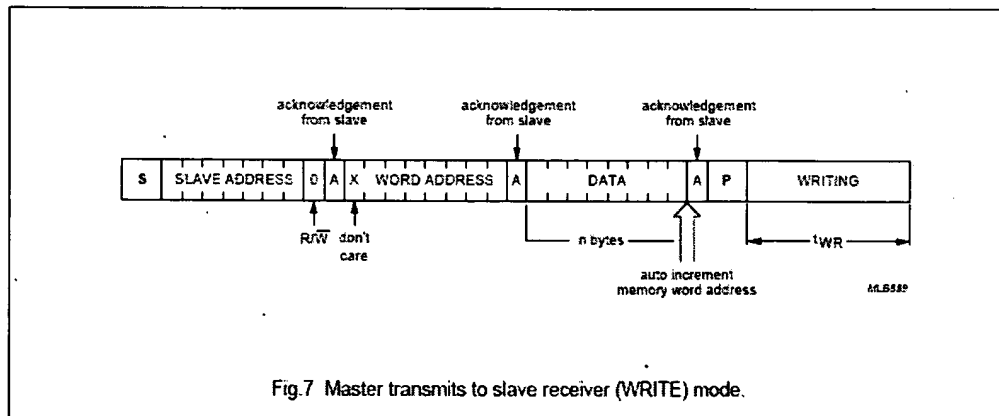
With regard to claim 1, Philips discloses a method for communicating between a master device and a slave device connected via an inter-integrated circuit bus (an I2C system configuration is shown at least in Fig. 5 of Philips, which is reproduced below)



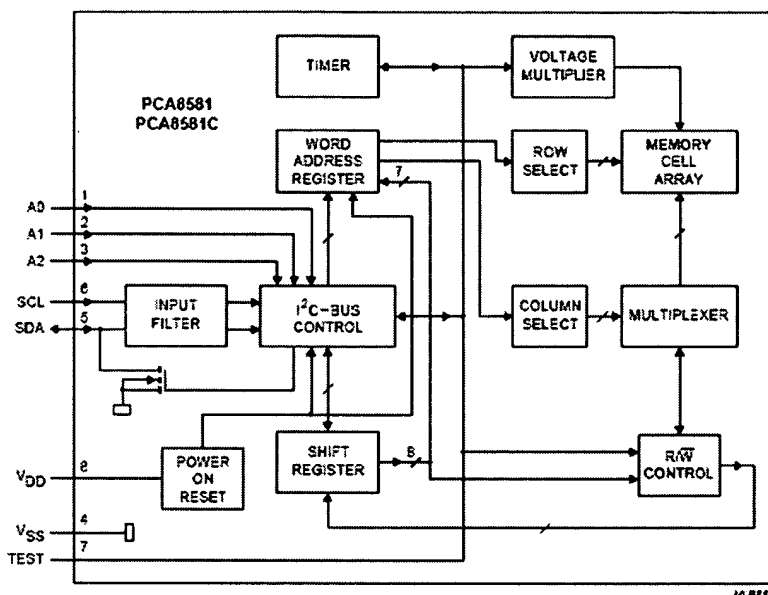
; said method comprising the steps of: sending a message from said master device to said slave device over said I2C bus (before any data is transmitted over the I2C bus, the slave device must be first addressed. The address is always carried out

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with the first byte transmitted after the START procedure (S), as shown in the following example:



As noted above, in addition to the address of the slave device, the word address or internal address of a register is provided to the message to indicate the location where the master write or read to/from the slave. Philips further discloses that the slave device, such as the PCA8581/PCA8581C shown below, determines an address stored in the word address register using the slave address presented in the message.



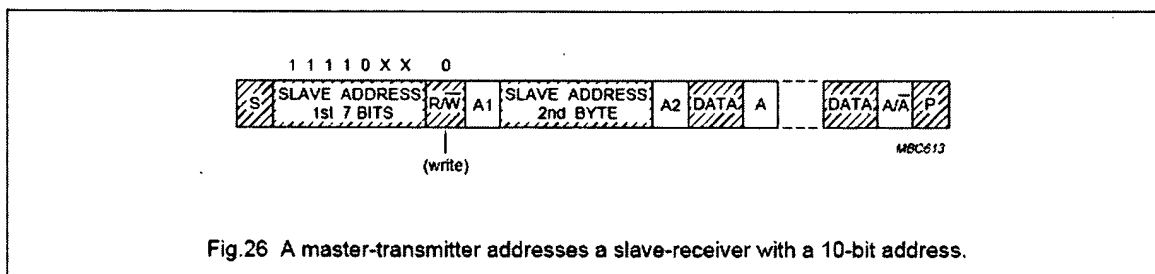
Philips does not disclose the use of I2C extended addressing, wherein a message comprises a command code comprising a plurality of bits, a first subset of bits functioning as an indicator of the type of supplementary address.

However, the use of extended addressing such as the 10-bit addressing is old and well-known as evidenced by at least the I2C Specification..

According to the I2C specification, when a 10-bit address follows a START condition, each slave compares the first seven bits of the first byte of the slave address (11110XX) with its own address and tests if the eighth bit (R/W direction bit) is 0. It is possible that more than one device will find a match and generate an acknowledge (A1). All slaves that found a match will compare the eight bits of the second byte of the slave address (XXXXXXXX) with their own addresses, but

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only one slave will find a match and generate an acknowledge (A2). The matching slave will remain addressed by the master until it receives a STOP.



As discussed above, in the 10-bit addressing mode, the message contain a first byte and a second byte. The first byte is 11110XX, where XX are two MSB (most significant bits) of the 10-bit addressed slave. The second byte comprises the 8 LSB (least significant bits) of the 10-bit addressed slave. Thus, it is clear that the first byte including the two MSB serves as an indicator that the supplemental address is a 10-bit address, and the second byte is readable as a so-called "supplemental address."

Further, according the I2C Specification, the purpose of using extended addressing is to allow more devices to be able to connect to the I2C bus.

Since both references are both from the same field of endeavor, the purpose disclosed by the I2C specification would have been recognized in the pertinent art of Philips..

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Philips with the extended addressing scheme, as taught by the I2C specification, for the purpose of extending the number of devices that can be connected to the I2C bus.

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With regard to claim 2, it is clear from the PCA8581/PCA8581C shown below, that the slave determines at least part of the address stored in the word address register using the slave's internal word address in addition to the slave address presented in the message).

With regard to claim 3, it is clear from at least Fig. 7 above, the master transmits to slave in WRITE mode to write data to a location identified by the Word Address Register in the PCA8581/PCA8581C.

With regard to claim 5, it is clear from discussion above that the so-called "second subset of said plurality of bits" comprises the so-called "supplemental address."

With regard to claim 6, it is clear from discussion above that the message comprises the so-called "command code" comprising 8 bits and comprises a 2-bit indicator of a type of supplemental address that is being provided.

With regard to claims 22 and 23, see discussion above, since the subject matter presented in claims 22 and 23 has already been addressed.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Allowable Subject Matter

Claims 15, 18, 20, 21 are allowed.

Claims 7-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relevant Art

Non Patent Literature/Printed documents: 16K I2C Serial EEPROM from Micrichip and I2C Facts are cited as relevant art.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Dang whose telephone number is 571-272-3626.

The examiner can normally be reached on Monday-Friday from 9:AM to 5:PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart, can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Khanh Dang
Primary Examiner